NOVITATES TAXONOMICAE II
ex Herbario Academiae Rheno-Traiectinae

edidit

A. PULLE (Utrecht) m. Aug. 1937.

SAPINDACEAE auctore H. Uittien.

Paullinia L.

A new species of *Paullinia*, viz. *P. Bernhardi* Uitt. was described on p. 774 of the last volume of this periodical. I have to add here another new species to this formerly monotypic section *Cryptoptilon*. The three species now known are all collected uncompletely. The flowers of the two Suriname ones are wanting; those of *P. verrucosa* Radlk. from British Guiana are known, but unfortunately only rather young fruits are found. A new diagnosis of this section is given here together with a key and the description of the new species.

Sect. **Cryptoptilon** Radlk. in Engl. u. Prantl, Nat. Pfl. fam. III, 5 (1895), p. 304, fig. 156 IX; id., Monogr. Paull. (1895—96), p. 247, fig. 9; id. in Engler, Pflanzenreich IV, 165, p. 309 (1931).

Corpus lignosum simplex. Rami obtuse trigoni lenticellis crebris verrucosi. Folia 3- vel 5-foliolata. Foliola subcoriacea, calloso-marginata, utroque latere binis vel trinis dentibus brevibus obtusis glanduloso-callosis praedita. Inflorescentiae solitariae vel paniculatim congestae tomentellae, cincinnis sessilibus. Sepala 4, tertia et quinta fere usque ad apicem connatis, crassa tomentella. Capsula extus tomentella, alis novem ornata, trinis primariis medias valvas obtinentibus angustis, secundariis crassioribus margine verrucosis. Species tres guianenses.

1. a. Folia pinnata, 5-foliolata .... **P. novemalata** Uitt.
   b. Folia 3-foliolata 2
2. a. Thyrsi paniculatim congesti. Alae parvae auriculiformes

paullo infra apicem capsulae affixae, deltoideae magis minus basin versus decurrentes .... **P. Bernhardi** Uitt.

b. Thyrsi solitarii. Alae ab apice capsulae usque ad basin decurrentes; secundariae latae, verrucosae .... **P. verrucosa** Radlk.

Paullinia novemalata Uitt. nov. spec.

Scandens, fruticosa. Rami thyrsigeri obtuse trigoni, lenticellosi, minute hirtelli mox glabrescentes. Folia pinnata, 5-foliolata, petiolis 2.5—6 cm longis, supra canaliculatis, subtus convexis striatis, glabris, basi fuscescentibus, stipulis oblongis subobtusis reflexis nigrofuscis 2 mm longis, rhachibus usque ad 3 cm longis, 2 mm latis, marginatis, supra bisulcatis glabris. Foliola subcoriacea, margine 3-dentata, dentibus brevibus glanduloso-callosis, apice longius acuminatis, acumine angusto 1 cm longo subacuto, terminalia oblongo-elliptica usque ad 10 cm longa, 4 cm lata, basi in pseudopetiolum longiusculum contracta, lateralia paullo angustiora vix breviora, superiora in petiolum 2 mm longum contracta, inferiora 4 mm petiolulata, in axillis nervorum subtus pilosa, ceteroquin glabra, supra subnitentia, infra opaca, costis utrinque fere 8.

Thyrsi paniculatim congesti fulvo-hirtello-tomentelli angusti, cum pedunculo 2—2.5 cm longo 15 cm metientes, cincinnis sessilibus. Flores non suppetunt. Sepala 4, exteriora 1.5 mm longa, interiora 5 mm longa, quorum unum apice bifidum. Capsula immatura 3 mm pedicellata (teste collectore viridis) fulvo-hirtello-tomentella, 8—10 mm diametro, breviter stipitata, stylo 3-fido coronata, alis 9, 3 mm latis, apice truncatis, basi angustatis, conspicue transverse exarato-rugosis, primariis tenuioribus margine serrato-dentatis, secundariis pseudo-duplicibus margine verrucosis. Semina ovoidea nigra nitida, 5 mm longa. (Fig. 1 b et c).

Surinamo, in ripa fluminis Corantijn, prope Matappi. Leg. J. W. Gonggrijp, nr. 2170, 18-VI-1916. Typus in herbario Rhenotrajectino (Utrecht).

Paullinia acuminata Uitt. nov. spec.

Paulliniae stenopetalae Sagot affinis, sed foliis tenuioribus, thyrsis solitariis longe pedunculatis, floribus maioribus, capsulis maioribus conspicue stipitatis intus tomentosis diversa.

Scandens, fruticosa. Rami thyrsigeri leviter sulcati, minute puberuli mox glabrescentes, 3 mm diametro. Corpus lignosum simplex. Folia pinnata, 5-foliolata, petiolis nec alatis nec marginatis 1—2 cm longis, supra bisulcatis, subtus convexis, pilosulis,

stipulis lanceolatis, 3 mm longis, basi dilatatis, rhachi marginata cum foliolorum basi pilosula, 1.5—2 cm longa. Foliola chartacea, subglabra, nervis subtus pilis minutis sparsis et in axillis nervorum longioribus praedita, utrinque subopaca, supra subfuscescentia, subtus brunnescentia, nervo mediano utrinque prominente, costis utroque latere 5—7 subtus valde supra vix prominentibus, nervis secundariis subparallelis haud valde conspicuis, venis areolatis, reti utriculorum laticiferorum interrupto lineola pellucida efficiente instructa, supra fibris sclerenchymaticis percursa, apicem versus remote serrato-dentata, dentibus utrinque

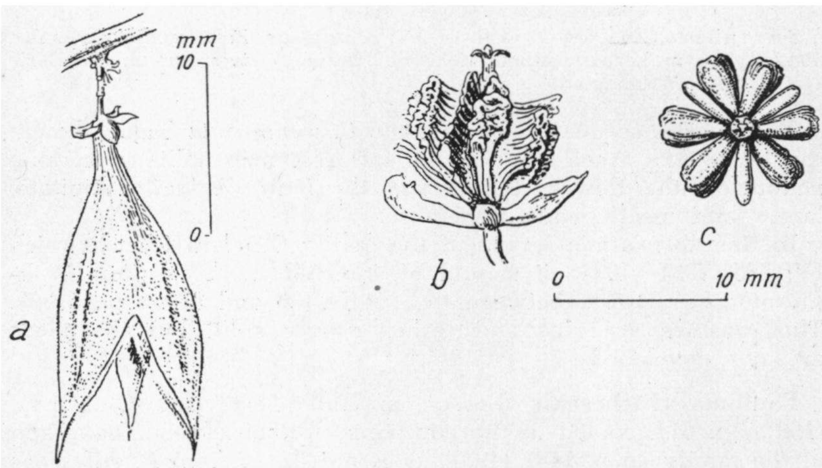


Fig. 1. a. *Paullinia acuminata* Uitt., fructus a latere visus; b. *Paullinia novemalata* Uitt., fructus cum sepalibus a latere visus; c. idem ab apice visus.

1—3 brevibus obtusiusculis vel obtusis, apice in acumen 1 cm longum obtusissimum producta, terminalia oblonga vel suboblanceolata, basi cuneata, 8—10 cm longa, supra medium 3—3.5 cm lata, subsessilia, lateralia superiora anguste elliptica, 7—8 cm longa, fere 3 cm lata, basi acutiuscula, 1—3 mm petiolulata, inferiora elliptica, 5.5—6.5 cm longa, 2.5—3 cm lata, basi subrotundata. Thyrsi solitarii, 5—11 cm longi, angustissimi, densiflori, basi plerumque cirrhis binis praediti, dense pilosuli, pedunculis 3—8 cm longis, dense minute pilosulis. Cincinni sessiles. Flores (teste collectore albi) mediocres, extus pilosuli, 1—2 mm pedicellati, post anthesin usque ad 4 mm pedicellati. Sepala 5, petaloidea, exteriora minora, 1.5 mm longa, interiora 2 (—3) mm

longa. Petala lineari-oblonga, 3 mm longa, 1 mm lata, extus subglabri, intus breviter glanduloso-pilosula, squamis cucullatis vix dimidium petalorum partem aequantibus, subglabris, basi ciliolatis, superioribus crista breve emarginata appendiceque deflexa margine ciliolata praeditis. Staminum filamenta basi pilosa. Tori glandulae ovatae.

Capsula stipite apiceque inclusis 2 cm longa, subtrigona, obovoideo-ellipsoidea, sex-costata, 2—3 mm stipitata, apiculo 2—3 mm longo instructa, extus pube brevi appressa densa flavidula (teste collectore in planta viva aurantiaca) induta, intus albido-tomentosa. Semina non visa. (Fig. 1 a).

Surinamo, Zanderij I. Legit W. A. ARCHER, nr. 2749, mense Novembri 1934. Typus in herbario Rhenotrajectino (Utrecht); typi duplum in Herb. Nat. U.S.A. (Washington).

This species seems to be related to *P. stenopetala* Sagot, though the leaves are much thinner, the inflorescences solitary on long peduncles, the flowers larger and the fruit distinctly stipitate, larger and inside white tomentose.

In RADLKOFERS monograph of the family (Englers Pflanzenreich IV, 165, 1931—1934) it should be inserted in the section *Diph-therotoechus* Radlk. between the species 30 and 31 on page 269. The capsules are ripe and rather deeply split, but the seeds are not developed.

Paullinia Hitchcockii Gleason in Bull. Torr. Bot. Club LIV (1927), p. 614, copied in the additions of RADLKOFERS Monograph of the family on p. 1481 (1934) does not differ from *P. rufescens* Rich. ex Juss. neither in the form and dentation of the leaves nor in the wings of the fruit, as supposed by its author. The type number, HITCHCOCK 17129 in the Kew herbarium has the same leaves and fruits as JENMAN 683, identified by RADLKOFER, l.c., p. 313 as *P. rufescens* and other specimens of this species from British Guiana. In both "species" the fruit-wings are rather soon narrowed towards the base and decurrent as low but distinct ridges nearly or quite to the base. The figure of the fruit of *P. rufescens,* drawn by RADLKOFER l.c., p. 221, fig. 5, XI, also in Engler-Prantl (1895), fig. 156, XI and in Monogr. Paull. (1895) fig. 11, agrees entirely with the fruits of the type-number of *P. Hitchcockii.* The dentation of the leaves is rather variable. It may be prominent (JENMAN 683 & 2375, HITCHCOCK 17129, ANDERSON 457—478, PARKER s.n., cited by RADLKOFER) or obsolete (PERSAUD 76 & 192, SANDWITH 592). Three specimens have been collected in Suriname, two of them (B.W. 6523 & STAHEL 113)

with large, 8—14 cm long, 5—7.5 cm broad, indistinctly dentate leaflets and one (B.W. 6597) with very young and small, usually 3-foliolate leaves and conspicuously dentate leaflets. The terminal cusp is nearly always conspicuous, a character erroneously mentioned as differential for *P. Hitchcockii.* The number of leaflets is not of much importance. In nearly every pinnate leaved species of this genus 3-foliolate leaves are found now and then. The sessile or very shortly peduncled inflorescences and their short rufous tomentum are more reliable characters for the identification of this species.

The flowers and the leaves of the two first mentioned Suriname specimens are larger than usual, the outer sepals being 2 mm, the inner ones nearly 4 mm long, but this difference is probably unimportant, as the shoots are more vigorous too.

Talisia longifolia (Bth.) Radlk. has been found by SPRUCE in the neighbourhood of Para (Brazil) in 1849 and never since, according to RADLKOFER's Monograph (p. 847). In 1917 another specimen of this species has been collected in Suriname by the Forestry Bureau (nr. 3227), which agrees fully with the type specimen, SPRUCE 213 x, conserved at Kew, but for some differences, which are worth to be mentioned here. BENTHAM (in Hooker's Journ. of Bot. II, 1850, p. 211) described the leaflets as obtuse. Their tops are however broken off for the greater part. The Suriname specimen has the leaflets distinctly, thou sometimes rather gradually acuminate; the tops are 1 to 3 cm long and very acute. The flowers are said to be hardly 3 mm long both by BENTHAM and RADLKOFER. The fullgrown petals of B.W. 3227 possess 4 or even 5 mm long petals. The filaments are hispid according to BENTHAM, glabrous in bud according to RADLKOFER. Both authors are right. There are only young buds left on the type specimen with glabrous filaments. The filaments of the Suriname plant are also glabrous in young flowers and finely but densely hispid hairy in the open ones. The scales of the petals are bifid according to RADLKOFER but those of all flowers analysed by me were quite entire and obtuse in both specimens. RADLKOFER neglected to mention the number of stamens. BENTHAM found once 6 stamens, but usually 5 and sometimes one of them rudimentary. There are also 5 stamens in the Suriname specimen, very rarely 6. Two of the nearest relatives of this species, viz. *T. micrantha* Radlk. and *T. reticulata* Radlk., both from Suriname, have also 5 stamens. It may be of taxonomic importance. The number is not mentioned for

T. carinata Radlk. and *T. dasyclada,* which belong to the same group of the subsection *Acladodea* Radlk., but the other species of the genus, as far as known to me, possess 8 stamens.

The leaflets are up to 35 cm long. The flowering branchlets are very thick, 1.5 cm in diameter at the base and deeply furrowed and ridged by the decurrent bases of the petioles.

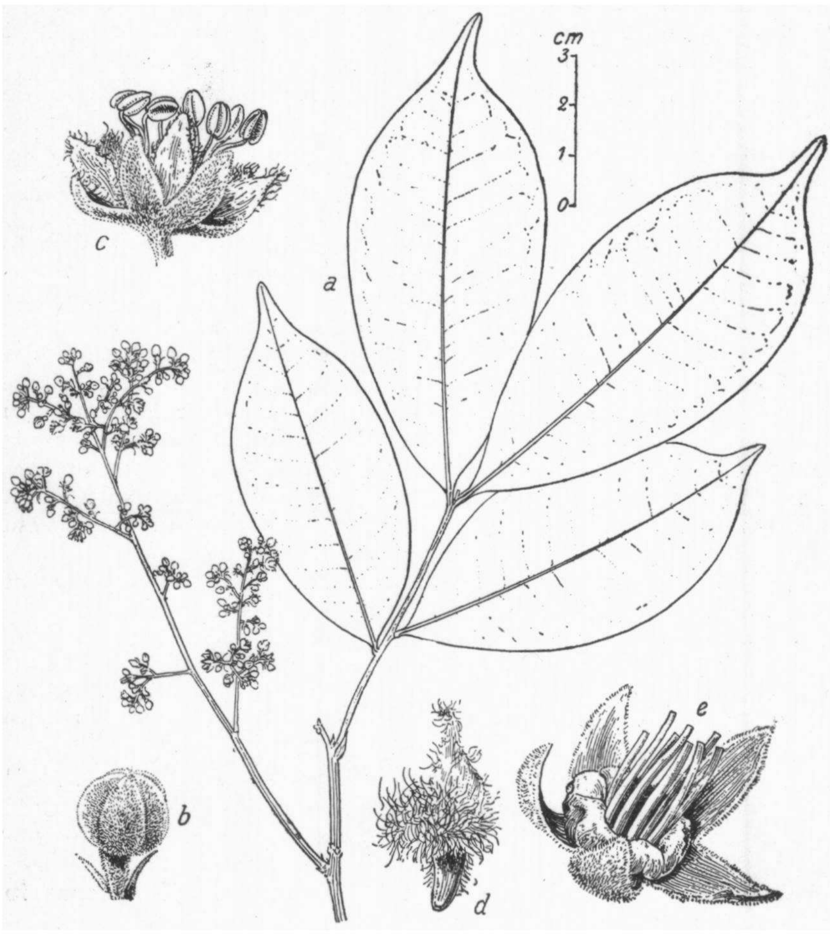


Fig. 2. *Talisia microphylla* Uitt. a. ramulus florifer; b. alabastrum; c. flos a latere visus; d. petalum ab interno visum; e. calyx defloratus cum disco et filamentis.

Talisia microphylla Uitt. nov. spec.

Species e sectione *Cotopais* Radlk. vocata, sed a duabus speciebus hucusque repertis *T. olivaeforme* (Kunth) Radlk. et *T. intermedia* Radlk. foliolis acute acuminatis et staminibus glabris facile dignoscenda. Praeterea petalorum forma multisque aliis notis satis differt.

Arbor ramulis gracillimis teretibus nigrescentibus, junioribus fulvo-nigris pulverulento-tomentellis mox glabrescentibus. Folia alterna abrupte pinnata bijuga, petiolis 2—2.5 cm longis, 2 mm latis indumento ramulorum juniorum, supra plana vel obscure carinulata, infra acute carinata, rhachi commune supra acute carinata infra subplana, foliolis 4 glabris, supra laevigatis, breviter petiolulatis (1—1.5 mm) alternis vel suboppositis tenuiter coriaceis obovato-ellipticis vel ellipticis basi acutis margine integris apice subito acute acuminatis, 8 (5—10) cm longis, 2.5—4 cm latis, acumine 1 cm longo acuto mucronulato, nervo mediano supra valde conspicuo subacuto in sulco immerso, infra minus prominente convexo vel subplano, nervis lateralibus utrinque inconspicuis latere utroque fere 10 arcuato-connexis, diachymate in staurenchyma et parenchyma distincto.

Paniculae terminales rarius subterminales anguste ovoideae acutae 10 (5—15) cm longae, rhachibus ramulisque angulatis gracilibus pilis fulvis minutis pulverulentis vestitis, ramulis usque ad 5 cm longis ramificatis vel dichasia gerentibus bracteis minutis vel interdum foliis pygmaeis 2—5-foliolatis suffultis.

Flores mediocres in alabastro ovoideo-conici expansi 5 mm diametientes dichasia formantes, bracteis bracteolisque conspicuis lanceolatis vel ovato-lanceolatis, pedicellis usque ad 1 mm longis. Sepala 5 crassa subcoriacea anguste oblonga, apice acutata extus et intus dense fulvo-tomentella anguste imbricata basi breviter connata 2.5—3 mm longa 1.25 mm lata. Petala 5 simul cum sepalis expansa membranacea sparse villosa 4 mm longa 1.5 mm unguiculata, lamina ovata vel anguste ovata acutissima vel acuminata squama simplici inconspicua truncata vel rotundata per totam longitudinem petalo ipsi adnata longissime villosa praedita, inde petala subinfundibuliformia. Discus regularis annularis altior carnosus sub-10-angularis glaber. Stamina 8 filamentis filiformibus glabris 3 mm longis, antheris introrsis ovoideo-ellipsoideis apice obtusis haud apiculatis basi cordatis dorso paullo supra basin affixis 0.5 mm longis. Ovarium in floribus masculis minutum ovoideum appresse hirsutum stigmate sessili subtrilobo stylo nullo 3-loculare, ovulis in loculis solitariis basalibus. Flores feminei ignoti. Fructus desunt.

S u r i n a m o. Brownsberg. Legit BOSCHWEZEN n. 6445, d.d. 22 III 1924. Typus in herb. Utrecht.

The three species of the section *Cotopais* Radlk. are characterized by the 2 (—1) jugate leaves, the small scales at the base of the petals and the short, obtuse anthers. They are apparently dioecious. *Talisia olivaeformis* (Kunth) Radlk. is known from Yucatan, Colombia and Venezuela; *T. intermedia* Radlk. from Venezuela and eastern Brazil (Minas Geraes, Espirito santo).

XYRIDACEAE auctore J. L a n j o u w.

Xyris longiceps Malme in Rec. trav. bot. néerl. IX (1912) p. 131; Malme in Arkiv f. Bot. XIII, No. 3 (1913) p. 54; — *Xyris leptostachya* Malme in Rec. trav. bot. néerl. IX (1912) p. 132; Malme in Arkiv f. Bot. XIII, No. 3 (1913) p. 54.

Xyris longiceps Malme and *Xyris leptostachya* Malme are without doubt identic. Why MALME kept them separate is not clear to me. The differences given in his key (Ark f. Bot. XIII, No 3, p. 52) do not exist. It is impossible to understand why he states that *X. leptostachya* is an annual and *X. longiceps* a perennial. MALME described the leaves of *X. leptostachya* as being 3—4 cm long. The leaves must certainly be longer than 4 cm as in the type specimen (BOLDINGH 3844) there are only parts of leaves present and these reach already this length. Moreover he states that the length of the peduncle is 9—13 cm, whereas the shortest peduncle in the type specimen is 17 cm long. The differences mentioned with the descriptions of these species does not hold either as they are due to the different state of development of the specimens. Furthermore I have seen more material with all transitions. Therefore I have united both species and have kept up *X. longiceps* Malme as the type specimen of this species is the best one. The species is closely related to *X. paraensis* Poeppig ap. Kunth, from with it can be distinguished by the shape of the spikes which are nearly globose in *X. paraensis* and more or less ovoid or fusiform in *X. longiceps*, though there are transitions. The best characteristic to distinguish the two species are the shape and the cilia on the back of the lateral sepals. They are very small in *X. longiceps* and rather long in *X. paraensis* (see fig. 3).

Xyris spathacea Lanj. nov. spec. Fig. 4.

X. tenellae Kunth affinis, differt foliis, bracteis, sepalisque

glabris eciliatisque et praesertim vaginis pedunculorum quam folia multo longioribus.

Planta caespitosa, radicibus filiformibus, c. 1.5—3 cm longis, numerosis. Folia dense rosulata, fusca, filiformia, c. 0.8—2 cm longa, apice subulata, glaberrima, subteretia, parte evaginata c. 5—10 mm longa, in vaginam fere 3—5 mm longam, c. 1—1.5 mm latam abrupte abeuntia, ligula c. 1 mm longa munitam vel eligulatam, inferne paulum tantum dilatata. Scapi 7—12 cm longi, subteretes, leviter striati, glabri, filiformes, basi folio longe vaginato involuti, vagina c. 3—5 cm longa, apice in acumen acutum

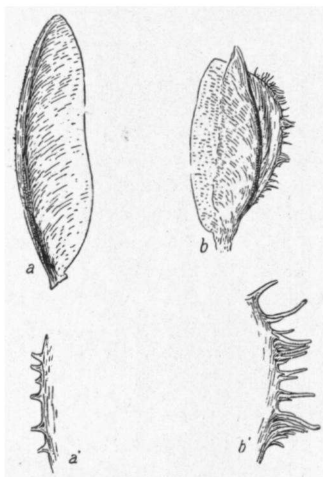


Fig. 3. *a. Xyris longiceps* Malme, lateral sepal, *a'* part of the margin enlarged. *b. Xyris paraensis* Poepp. ap. Kunth, lateral sepal, *b'* part of the margin enlarged.

c. 0.6 mm longum protracta. Spica c. 4-flora, ovata vel subfusiformis, c. 3—5 mm longa, 2—3 mm lata. Bracteae infimae eflorigerae, 2 exteriores oblongae, obtusae vel subacutae c. 2 mm longae, 0.8—1 mm latae, margine membranaceae, area dorsali c. 1 mm lata tota longitudine ornatae, 2 interiores obovato-oblongae c. 2.2 mm longae, 1.1 mm latae, area dorsali c. 1.5 mm longa, 0.5 mm lata ornatae. Bracteae intermediae 4, florigerae, obovato-oblongae vel obovato-ellipticae, ferrugineo-brunneae, subcoriaceae, margine membranaceae, cochleatae, latere c. 0.8 mm latae, leviter carinatae, apice obtusae vel subacutae, 2.5—3.2 mm longae, 1.8—2 mm latae, area dorsali c. 1.5 mm longa, fere 0.8 mm lata,

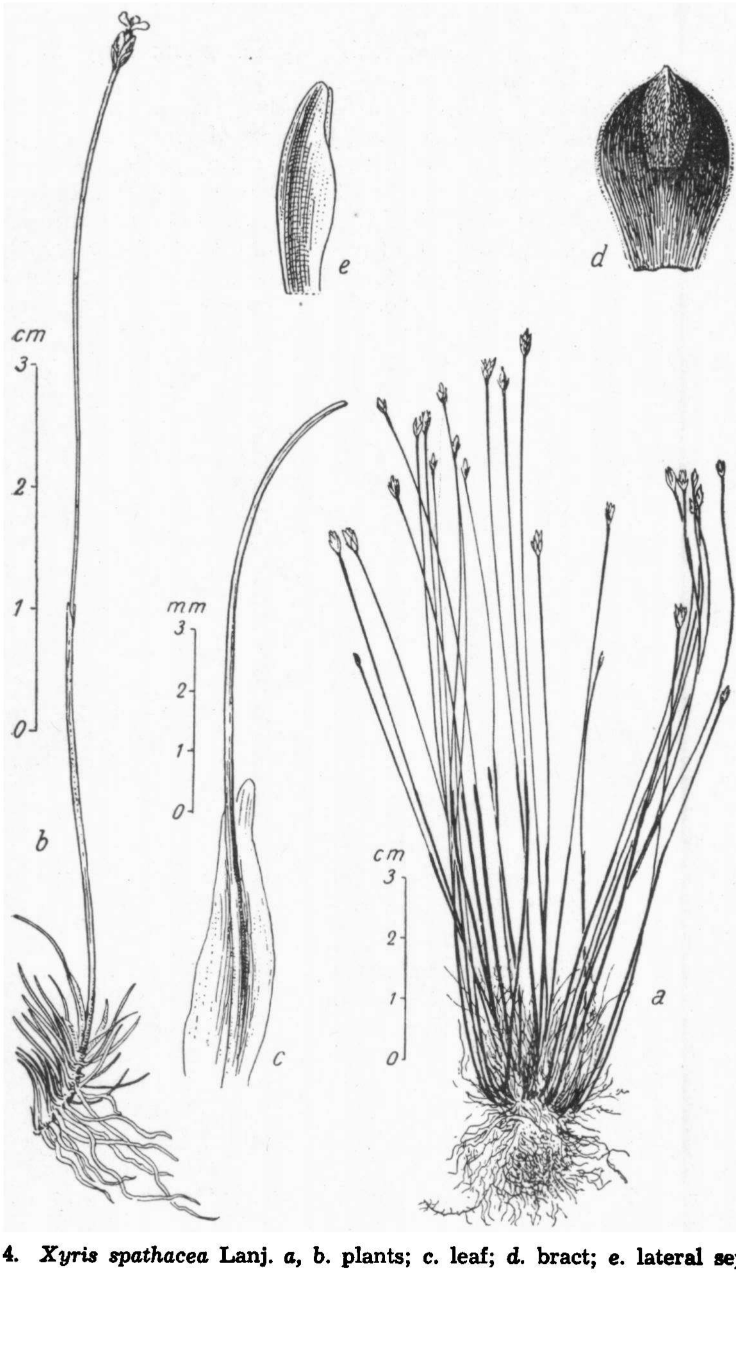


Fig. 4. ***Xyris spathacea*** **Lanj.** ***a, b.*** **plants;** ***c.*** **leaf;** ***d.*** **bract;** ***e.*** **lateral sepal.**

cinereo-brunnea, leviter tuberculata, obovato-oblonga ornatae. Bractea una, eflorigera spicam terminans. Sepala lateralia fere 3.5 mm longa, latere c. 0.7 mm lata, inaequilatera, libera, naviculari-lanceolata, carinata, ala carinali subnulla, eciliata, integerrima. Sepala mediana tenuiter membranacea, c. 2 mm longa. Corolla flava, tubo c. 3 mm longo, lobis truncato-obovatis, basi cuneatis, apice irregulariter minute denticulatis. Staminodia penicillata. Stylus fere ad tertiam partam trifidus; stigmata subcapitata. Capsula ovoidea c. 2.1 mm longa et c. 1 mm diametiens, unilocularis, placenta basi-centrali; semina numerosa, c. 0.3 mm longa, reticulata.

Surinamo: in savannis prope Zanderij I (ESSED s.n. Typus in Herb. Rheno-trai. fl. et fr. m. Sept. 1914).

This new species is related to *X. Grisebachii* Malme and especially to *X. tenella* Kunth. Within the latter species it shows affinities to the form *primaria* from which it differs in the glabrous and eciliate leaves, bracts and sepals and especially in the sheaths of the peduncle which are c. 3 times as long as the leaves, whereas they are in *X. tenella* as long as or slightly longer or shorter than the leaves. Moreover are the leaves of *X. spathacea* much shorter.

Xyris savannensis Miq. var. **glabrata** Seubert in Mart. Fl. Bras. III. 1. (1855) p. 217; Malme in Ark. f. Bot. XIII, No. 3 (1913) p. 54.

The specimen collected by ROMBOUTS mentioned below is provisionally inserted under this name. I have not seen the plant mentioned by SEUBERT. The specimen from Suriname differs from the true *X. savannensis* by the following characteristics. The leaves are only slightly scabrous at the base and for the rest nearly glabrous just as the peduncles. The spikes are obliquely attached to the top of the peduncle. The first pair of bracts is distinctly keeled on the back.

Suriname: Upper Sipaliwini R., savannah (ROMBOUTS 554 b, fl. March).

Xyris surinamensis Spreng. Tent. suppl. Syst. veg. Linn. (1828) p. 2; — *Xyris eriophylla* Reichenbach in pl. exs. Weigelt (1827?)

This species has always been given the name of REICHENBACH. The species of SPRENGEL apparently has never been reckognized. In the Index Kewensis and by NILSSON (K. Svenska Vetensk. Akad. Handl. Bnd. 24, No. 14, 1892, p. 66) it was placed under the species dubiae. MALME does not mention this species in his treatment of the american species of *Xyris*. The description of

SPRENGEL is rather good. It was based on a plant collected by WEIGELT in Suriname, just as several other new species described by him in that paper. It is rather curious that none of the monographers of the genus (NILSSON and MALME) noticed that the species was based on a plant of WEIGELT, and that in this collection is only one species of *Xyris*, viz. *X. eriophylla* Reichenb. Moreover the description of SPRENGEL fits that species very good. So there seems to be little doubt that SPRENGEL's species is not the same. For REICHENBACH's species is usually given as date of publication 1827. Malme mentions this year with an interrogationmark. The description was published on a label of WEIGELT's exs. collection. On this label is stated "leg. et exs. WEIGELT 1827". SPRENGEL described his species much better in 1828. However, if the species of REICHENBACH really has been distributed or was on sale in 1827 we have to consider his name as valid. It will be very difficult to proove that REICHENBACH's labels were distributed before SPRENGEL's publication. SPRENGEL did not mention RELCHENBACH's name and with other species of the same collection he did. So e.g. *Reimaria laxa* Reichenb. p. 2, *Scirpus flaccidus* Reichenb. p. 3, *Agrostis villosa* Reichenb. Therefore I think that SPRENGEL got this specimen before REICHENBACH had published his label. There seems to be no reason that SPRENGEL would not use the name given by REICHENBACH as he did use them with other species. Unfortunately I have not been able to trace a specimen bearing SPRENGEL's name, though I am sure it once will be found. I think that the validity of the publication of a new species on a label is a drawback for nomenclature. The date of publication is often doubtful, as it is usually not mentioned on the label. As after Art. 36 of the Intern. Rules of Nomenclature „Publication is effected, by sale to the general public or to botanical institutions, of printed matter or indelible autographs, or by distribution of these to specified representative botanical institutions", it will be almost impossible to prove for such publication that it has been "effective". One hardly can say that such publication is excessible for all botanists. As in this case SPRENGEL's publication was better, undoubtedly effective and therefore valid, I propose to maintain SPRENGEL's name and refer that of REICHENBACH to the synonymy.

Xyris dolichosperma Lanj. nov. spec.

ad subgenus *Euxyris* pertinens. Differt ab omnibus speciebus sepalis obscure dentatis, subglabris, seminibus longis. Probabi-

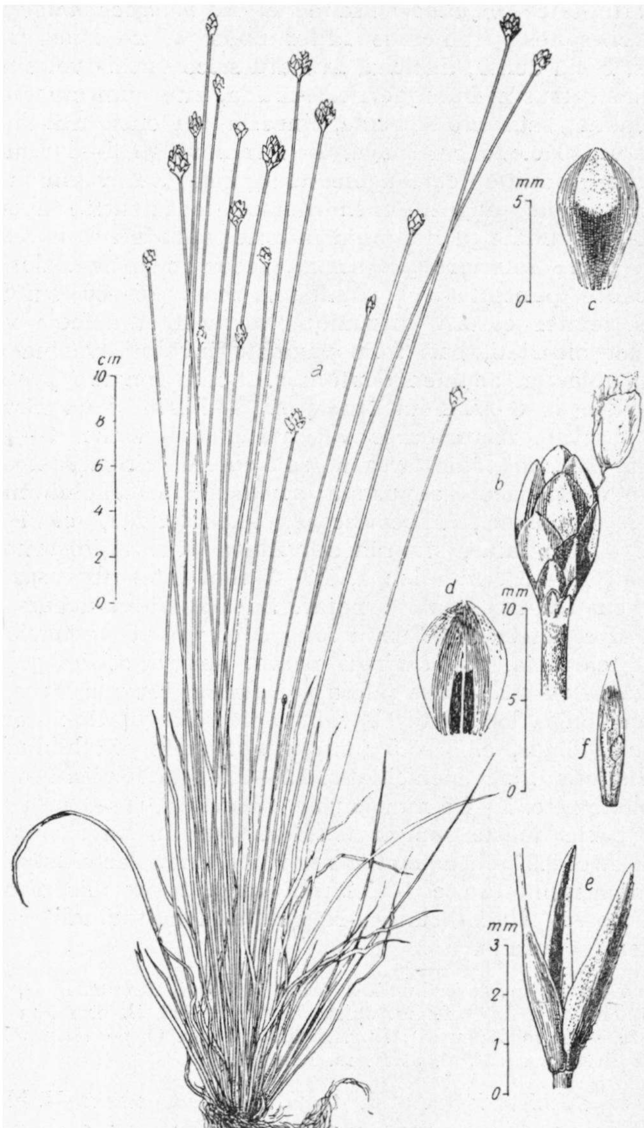


Fig. 5. *Xyris dolichosperma* Lanj. *a.* plant, *b.* spike with flower, *c.* flowering bract outside, *d.* the same inside, *e.* lateral sepals with ovary, *f.* seed.

liter ex affinitate *X. fallacis* Malme et *X. macrocephalae* Vahl. Planta caespitosa, radicibus filiformibus, c. 2—7 cm longis, numerosis. Folia densa, disticha, in statu sicco viridi- vel cinereo-fusca, basin versus plerumque fusco-nitida, interdum cinereo- vel nigro-maculata, satis crassiuscula, linearia vel ensiformi-linearia, 8—22 cm vulgo c. 15 cm longa, 1—4 mm vulgo 2—3 mm lata, apice acuta, tenuiter cartilagineo-marginata, in vaginam fere 3.5—6 cm longam, anguste membranaceo-marginatam abeuntia, ligula c. 1—1.5 mm longa munitam, inferne paulum tantum dilatata, glabra, in parte inferiore praesertim secus marginem dorsalem sparse scabre punctata vel rugulosa. Scapi 25—50 cm longi, subteretes, leviter costati, plerumque tortuosi et apicem versus applanati et bicostati, basi folio vaginato involuti, vagina 6—11 cm longa, apice in acumen acutum c. 2 mm longum protracta. Spica ovoidea c. 8—12 mm longa, c. 5—7 mm lata. Bracteae inferiores parvae, triangulares vel triangulari-ovatae, 2—4 mm longae, 1.5—2.5 mm latae, area dorsali cinereo-virescente, oblonga, apicem versus acute angustata ornatae. Bracteae intermediae florigerae, cochleatae, subcoriaceae, suboblongae, c. 7 mm longae, c. 4 mm latae, stramineo-brunneae vel viridi-brunneae, area dorsali 2.9—3.2 mm longa, 1.8—2 mm lata, obovata, apice subacuta, cinereo-virescente ornatae. Sepala lateralia fere 3.5—4.5 mm longa, latere c. 0.7 mm lata, subaequilatera, naviculari-lanceolata, carinata, ala carinali parva, sparse et irregulariter dentata, basin versus sparse pilosa vel glabra. Corolla flava, tubo c. 6—7 mm longo, lobis late obovatis, apice irregulariter dentatis, c. 4—5 mm longis, c. 3—3.5 mm latis. Staminodia bibrachiata, brachiis remotis, longe penicillatis, 1.8—2.5 mm longis. Antherae lineari-oblongae, c. 1—1.5 mm longae, filamento 0.6—1 mm longo. Stylus in parte quarta summa trifidus. Capsula fusiformis, 3—4 mm longa et c. 0.9 mm diametiens, unilocularis, placentis parietalibus; semina numerosa, c. 1—1.2 mm longa, fusiformia, brunnea, grosse et sparse fusco-brunneo-reticulata, longitudinaliter striis scabris densis munita.

S u r i n a m o: in savannis humidis prope Zanderij I (PULLE 39, Typus in Herb. Rheno-trai. fl. et fr. m. Julio; LANJOUW 296, fl. et fr. m. Julio; ESSED 114, fl. et fr. m. Augusto); fluv. Sipaliwini sup. prope „Kamp XXII", in savannis ROMBOUTS 554, fl. et fr. m. Martio).

This new species is related to *X. macrocephala* Vahl and *X. fallax* Malme. It differs from these species by the shape and hairyness of the lateral sepals and especially by the rather long coarsely reticulate seeds. The specimen collected by ROMBOUTS on the savannah at the Upper Sipaliwini River differs from

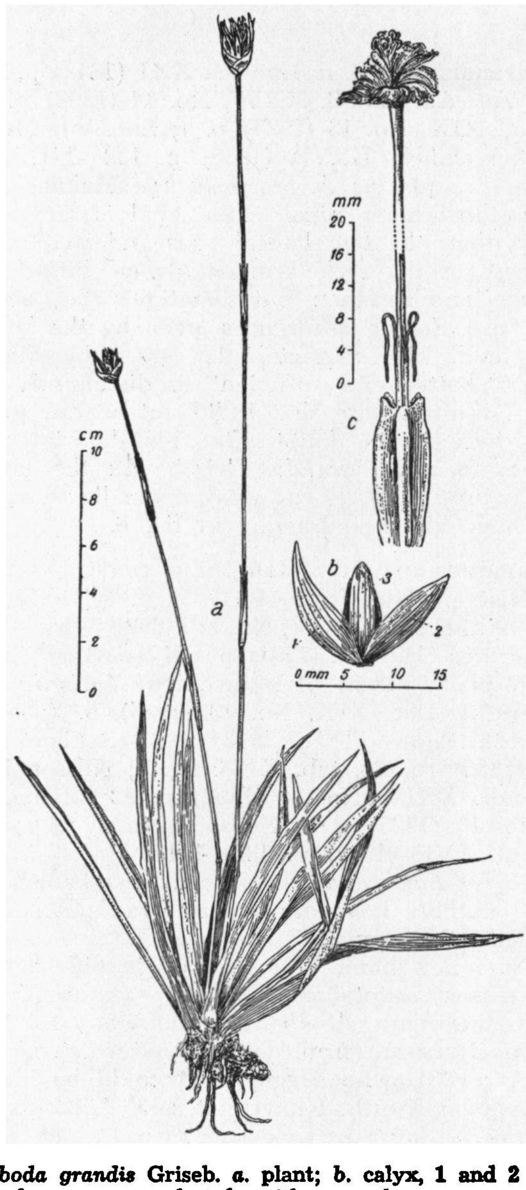


Fig. 6. *Abolboda grandis* Griseb. *a.* plant; *b.* calyx, 1 and 2 lateral sepals, 3 median sepal; *c.* ovary and style with appendages.

those collected at Zanderij I by the lateral sepals being distinctly inaequilateral.

Abolboda grandis Griseb. in Linnaea XXI (1848) p. 281; Nilsson in Kon. Sv. Vet. Ak. Handl. XXIV, No. 14 (1892) p. 62; Malme in Ark. f. Bot. XIX, No. 13 (1925) p. 7; Suessenguth u. Beyerle in Engl. Botan. Jahrb. LXVII (1935) p. 132—141.

This species has just as *A. macrostachya* Malme and *A. sceptrum* Oliv. a third inner sepal. This sepal is membranous and much smaller than the two lateral ones and is soon deciduous. The appendages of the style are not always filiform as is said by SUESSENGUTH and BEYERLE, but sometimes they are thickened towards the base. So the differences given by the latter in their key do not hold. The characteristics given by MALME in his key are much better and sufficient to distinguish the species of this genus. I must state that I did not see *A. macrostachya* Malme, but there is no doubt after his description that this species differs from *A. grandis* Griseb. As the latter species was never figured and as it was originally described from Suriname I have given a drawing in fig. 6.

Abolboda americana (Aubl.) Lanj. nov. comb.; — *Xyris americana* Aubl. Hist. pl. Gui. franc. I (1775) p. 40, t. 14; Nilsson in Kon. Sv. Vet. Ak. Handl. XXIV, No. 14 (1892) p. 55; — *Xyris coerulea* Lam. Ill. des Genres I (1791) p. 621; — *Abolboda? Aubletii* Kunth, Enum. pl. IV (1843) p. 28 (nec syn. *Xyris Jupicai* Rich.); Malme in Ark. f. Bot. XIX, No. 13 (1925) p. 7; — *Abolboda Poeppigii* Kunth, Enum. pl. IV (1843) p. 27; Seubert in Mart. Fl. Bras. III. 1 (1855) p. 224, tab. XXX fig. 3; Nilsson in Kon. Sv. Vet. Ak. Handl. XXIV, No. 14 (1892) p. 62; Malme in Ark. f. Bot. XIX, No. 13 (1925) p. 6; Suessenguth u. Beyerle in Engl. Botan. Jahrb. LXVII (1935) p. 132—141.

AUBLET's *Xyris americana* has puzzled taxonomists for a long time. Several authors have already referred the species to the genus *Abolboda*, but none of them could give any certainty. KUNTH gave it a new name and referred it with some doubt to *Abolboda*. NILSSON maintained it in the genus *Xyris*. MALME referred it to the genus *Abolboda* without any further definite opinion. It was HEIMERL (Ann. des k.k. naturhist. Hofmus. XXI, Heft 2 (1906) p. 68), who suggested it could be identical with *Abolboda Poeppigii* Kunth. I have not seen AUBLET's plants, but I have sent one of my Suriname specimens, which are identical with *Abolboda Poeppigii* Kunth, to Mr EXELL at the British Museum (Natural History). Mr EXELL wrote to me that the spe-

cimens agree very well with AUBLET's Type. As also the description of AUBLET and his figure answer very good to our specimens, I think it can be taken for certain that these two species are the same. The Suriname specimens agree very well with the type of *Abolboda Poeppigii* Kunth, from which I saw the specimen from the Berlin Herbarium. The Suriname specimens have shorter leaves and longer peduncles, so that the peduncles are 1.5—5 times as long as the leaves, whereas in POEPPIGS specimens they are about as long as the leaves. The Suriname specimen (KEGEL 1272) bears on the label the name *Abolboda Poeppigii* Kunth var. *scapo elongato.* Mr EXELL wrote me that in the Herbarium of the British Museum is also a plant of POEPPIG and that the same differences exist between the plant of AUBLET and the type of POEPPIG. As all specimens are the same in all other characteristics I think that these differences are caused by particularities of the soil in which the plants are grown. The Guiana specimens are collected in savannahs with a very poor soil (quartz sand), being very dry during several months every year. From the herbarium specimens it seems that POEPPIGS specimens have grown in much better soil. It seems to me a reasonable explanation that in the Suriname specimens, which grow in much poorer soil, the leaves have deminished considerably in length. The Suriname specimens often bear traces of burning. As there has been so much confusion with this species I give here a new description, based upon the Suriname specimens and those collected by POEPPIG.

Planta caespitosa, perennis, radicibus crassiusculis, c. 3—4 cm longis. Folia dense rosulata, angustissime linearia, membranacea vel subcoriacea, ima basi dilatata, trinervia, apicem versus subulata, acutata et lateraliter apiculo 0.1 mm longo praedita, 0.7—3 vel 2—4.5 cm longa, c. 0.3—0.5 mm lata, glabra. Scapus 1.5—7 cm longus, basi vaginis brevissimis involutus, ceterum nudus. Vaginae 3 exteriores 2—3 mm longae, usque ad 2 mm latae, ovato-oblongae, hyalinae, costa conspicua praeditae, acuminatae, minute apiculatae, 2 interiores exterioribus similes, ad 5 mm longae et 3 mm latae. Spicae subturbinato-obconicae, 4—6 mm longae, 3—5-florae. Bracteae infimae duae, c. 3 mm longae, basi 2 mm latae, apice acuminatae, undique margine hyalino-membranceae, subplanae. Bracteae florigerae c. 5 mm longae, latere 1.2 mm lato, imbricatae, naviculari-carinatae, undique margine hyalino-membranaceae, subulato-acuminatae. Sepala 2, naviculari-carinata, c. 5—6 mm longa, latere 1.5 mm lato, ovato-oblonga, mar-

gine late hyalino-membranacea, obtusa. Corolla hypocrateriformis, tubo c. 5 mm longo, limbo 3-partito, lobis obovato-ellipticis, c. 3 mm latis, c. 5 mm longis. Stamina 3, basibus laciniarum corollae inserta, iisque opposita. Antherae loculis linearibus. Ovarium sessile, truncato-obovatum. apice breviter 3-lobatum, lobis acutis, apicem versus cellulis epidermidis pro parte exsertis, ceterum glabrum, triloculare. Stylus c. 6—7 mm longus, c. 1 mm supra basim appendicibus 0.5 mm longis, subclaviculatis munitus, apice ramis 3, c. 1 mm longis, pluries ramificatis, ramulis ultimis apice bifidis, recurvis. Capsula trivalvis. Semina costulata.

Distribution: Guiana and Amazonian Brazil.
French Guiana: without locality (Aublet (B.M.)).
Suriname: near Saron (KEGEL 1272! (Gött.)); Zanderij I, sandsavannah (LANJOUW 294! (U.) fl. July; LANJOUW 192! (U.) fl. July; ESSED s.n.! (U.) fr. Sept.).
British Guiana: near Demerara (ANDERSON (B.M.) according to Heimerl l.c.).
Brazil: Rio Parà (coll. POEPPIG?, LUCAE ded. ex Herb. KUNTH! (B.), type of *A. Poeppigii* Kunth; Amazone R. (POEPPIG 3043! (B.)).

GENTIANACEAE auctore F. P. Jonker (Utrecht).

Stahelia Jonker, novum genus *Gentianacearum,* e tribu *Swertiearum.* Herbae glabrae. Caulis ramosus. Folia opposita, petiolata, 3-nervia. Flores parvi, 5-meri, paniculam dichasialem efformantes. Sepala sublibera, imbricata. Corollae lobi contorti, dextrorsi. Discus haud visus. Stamina 5 basi corollae affixa, filamentis filiformibus, erectis, antheris oblongis, acuminatis. Pollinis gramina solitaria, strato extino distincto, granulato, appendiculis binis obtusis praedito. Ovarium uniloculare, placentis maioribus, stylo subnullo, in fructu persistente, lobis binis. Capsula ellipsoidea, calycem superans. Semina multa, subglobosa.

Species adhuc unica: **Stahelia surinamensis** Jonker.

Herba, ± 50 cm alta, basi sublignosa. Caulis teres, basi 3 mm diametro. Folia membranacea elliptica, 3—7 cm longa, 1.5—3 cm lata, margine integra, apice acuta et subacuminata, basi acuminata ac magis minus in petiolos decurrentia, nervis binis lateralibus in foliis superioribus liberis, in foliis ceteris basi fere 1 cm cum nervo mediano connatis et aequilongis, nervis binis tenuioribus a basi usque ad medium folii marginem sequentibus, his omnibus more *Melastomacearum* venis transversalibus connexis.

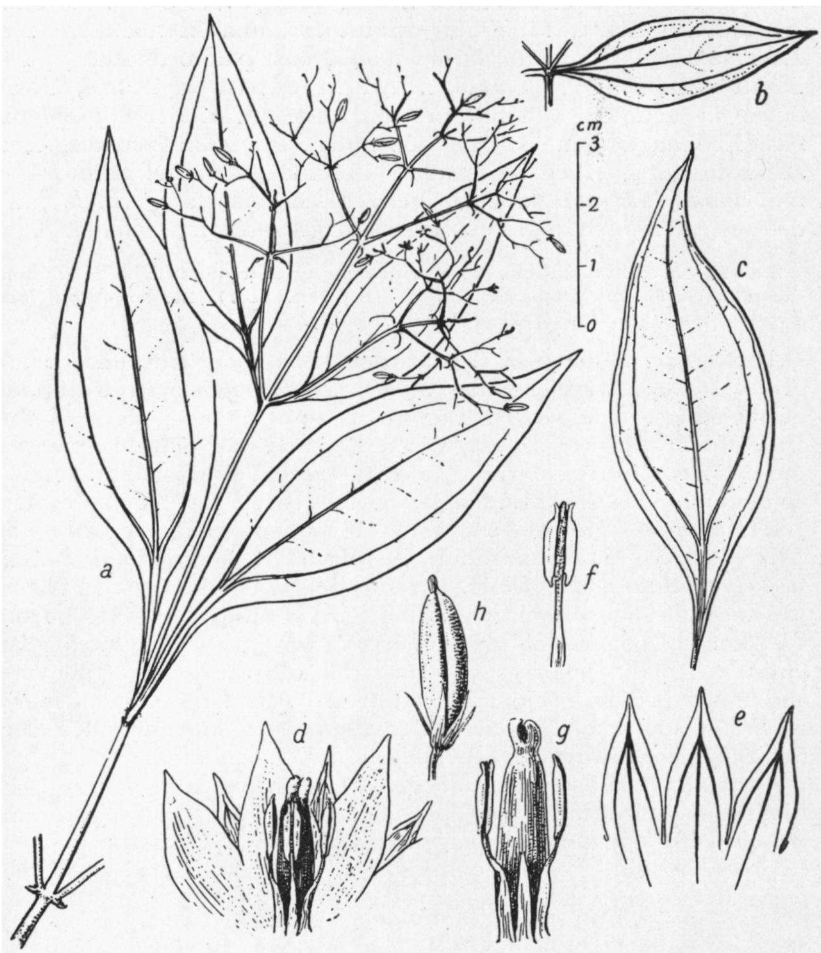


Fig. 7. *Stahelia surinamensis* Jonker, — *a*. fruiting branch; *b*. upper leaf; *c*. leaf; *d*. dissected flower bud; *e*. part of the calyx; *f*. stamen; *g*. ovary and surrounding stamens; *h*. fruit.

Petioli 0.5—2 cm longi. Paniculae terminales et axillares ovoideae, fere 6 cm longae, ramis ramulisque oppositis, bracteis linearibus, 3 mm longis vel minoribus, in dichasia vel cincinnos desinentes. Sepala membranacea usque ad 2 mm longa, persistentia, basi connata, lanceolata, acuminata et acuta, 3-nervia, nervis apice connexis. Corolla in alabastro 2 mm longa, teste collectore alba, lobis ovatis acutis tubo longioribus. Stamina in alabastro fere 1.5 mm longa, filamentis 1 mm longis, basi paullo dilatatis, parte basali corollae tubo connatis. Antherae basi sagittatae, thecis apice in acumen bidentatum productis. Ovarium ellipsoideum fere 1.5 mm longum, stigmatibus binis subsessilibus ovatis, crassis, rotundatis, erectis. Capsula ellipsoidea utrinque acuta, 4—5 mm longa, 1.5 mm lata, in sicco fusca, bisulcata, valvis binis dehiscens. Semina nigra, subrugosa, fere 0.25 mm diametro.

Surinamo, in montibus Wilhelminagebergte, in monte Top 1280 dicto, altitudine 1100 m. Legit G. STAHEL (B.W. n. 7157), mense Junio 1926. Typus in herbario Rheno-Traiectino (Utrecht).

This genus belongs to GRISEBACH's tribe *Swertieae* on account of its small, almost lacking style, which persists in fruit, and of its almost free sepals. Though in some other genera of this tribe the leaves are 3-nerved, often with weak marginal nerves, these 3 nerves are, however, always free at the base, and never connate into a thick midnerve in the basal part of the leaf.

If classified after the shape of the pollen grains, according to GILG's system, Stahelia should be placed in *Gentianoideae-Gentianeae-Gentianineae,* which corresponds with GRISEBACH's *Swertieae.* Besides the nervation of the leaves, this genus differs from the known genera of the *Swertieae* group in its having an imbricate calyx, whereas *Swertieae* usually have a valvate one, and in its peculiar acuminate anthers. Nectaries, found in many genera of this tribe are lacking in *Stahelia.* I did not find a disc, but only flowerbuds and fruits could be examined.

Although the structure of its flower resembles those of *Pleurogyne,* the facies of the whole plant is widely different. Its outward appearance somewhat reminds of GRISEBACH's tribe *Lisiantheae,* but the almost free sepals and almost absent style prove it to be quite different.

I have named this genus in honour of Prof. Dr. GEROLD STAHEL, director of the Agriculture Experiment Station at Paramaribo, the indefatigable collector and investigator of the Suriname flora, who, in his field notes, wrote of this specimen: "a single specimen; never seen by me before".

OLACACEAE auctore G. Jane H. Amshoff.

Heisteria surinamensis Amshoff n.sp.

Arbor. Folia ovato-oblonga vel oblonga, apice acuminata, basi acuta, subcoriacea, glaberrima, margine parum revoluta, 7—12 cm longa, 2½—4 cm lata, costa supra apicem versus parum impressa, subtus prominente, nervis lateralibus utroque latere 6—9 margine venis arcuatis inter se conjunctis, supra parum, subtus magis prominulis, venis laxe reticulatis prominulis. Petiolus canaliculatus, —8 mm longus. Fasciculi florum multiflori axillares, (—20 flori), pedicellis gracilibus 4—5 mm longis. Calyx 5-dentatus, 1½ mm longus. Petala 5 viridia, ovata, apice acuta, intus supra medium breviter pilosa, 3 mm longa, 1½ mm lata. Stamina 10 inaequalia, filamentis dilatatis in parte inferiore petalis connatis, episepalibus serius liberis. Ovarium conoideum, 10-sulcatum stylo brevissimo vel subnullo. Calyx fructifer 5-lobatus lobis rotundatis, inferiorem tertiam partem drupae laxe cingens, subcoriaceus, ruber, 1 cm diametro, drupa ovoidea ochroleuca, —1 cm longa, pedicello fructifero incrassato —7 mm longo.

Suriname: Brownsberg, leg. STAHEL et GONGGRIJP B.W. no. 734, fl. et fr. 3 Sept. 1915, typus in herb. Rheno-traj.
Vernacular name: Klikli Wete (Kar.).

This new species can be easely recognized from other species of *Heisteria* with small, not reflexed fruiting calyx by its long pedicellate flowers and its lobate, not dentate, fruiting calyx.

Heisteria microcalyx Sagot in Ann. Sc. Nat. 6 serie 11 (1881) p. 159, in the Index Kewensis only referred to as nomen in O. KUNTZE's Rev. Gen. I p. 41. As the author doubted whether the plant was a true *Heisteria,* the flowers beiing unknown, I will give here a more detailed description. (As type SAGOT cites LE PRIEUR s.n., there are however no fruiting specimens present among the *Heisteria microcalyx* collected by Le Prieur in the Paris Herbarium. SAGOT's drawing and notes are attached to the specimen of MARTIN, this plant has probably to be considered as the type).

Arbor vel frutex. Folia ovato-oblonga vel oblonga, membranacea, apice acuminata, basi acuta, 10—18 cm longa, 3—5 cm lata, supra costa prominente, nervis lateralibus parum impressis, subtus costa nervis lateralibus prominentibus, nervis lateralibus utroque latere 6—9, margine venis arcuatis inter se conjunctis, venis laxe reticulatis prominulis. Petiolus canaliculatus, 0.6—1

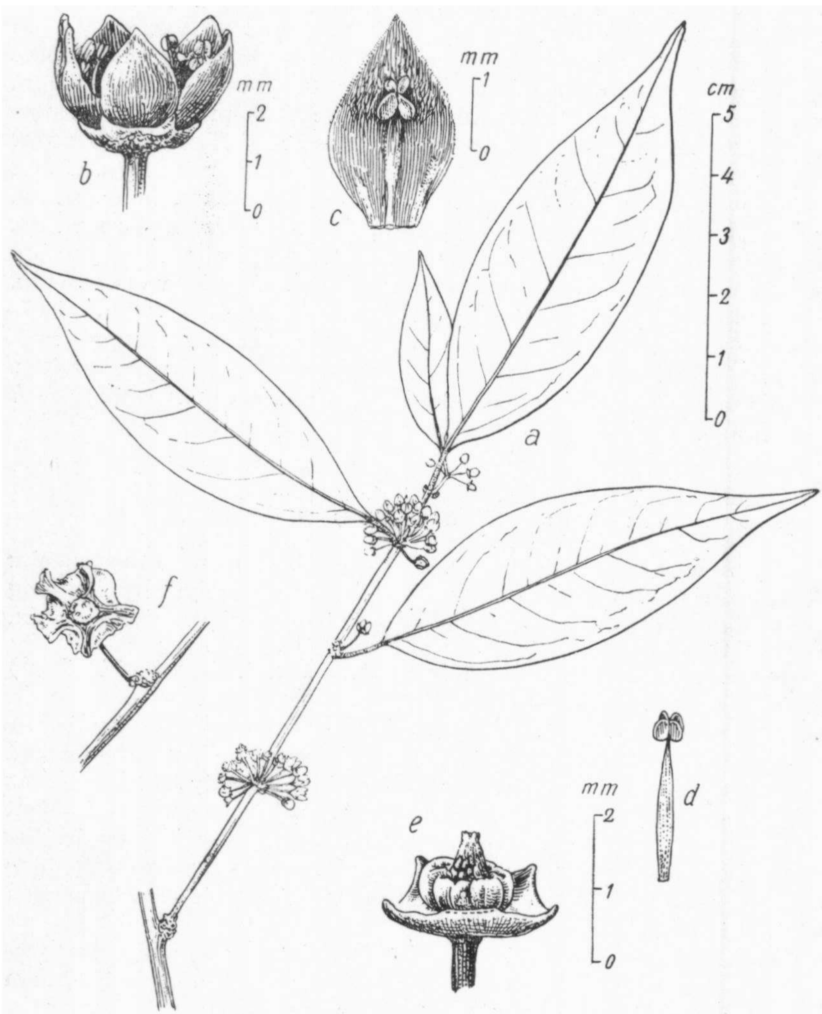


Fig. 8. *Heisteria surinamensis Amshoff*, *a*. Flowering branch., *b*. single flower, *c*. petal with stamen, *d*. episepalous stamen, *e*. calyx and ovary, *f*. fruiting calyx after the drupe has fallen off.

cm longus. Flores subsessiles vel brevissime pedicellati, (pedicello —2 mm), in fasciculis axillaribus paucifloris. Calyx 5-dentatus, 1½ mm longus. Petala lanceolata, intus pilosa 4—5 mm longa. Stamina 10, inaequalia, filamentis dilatatis in inferiore parte petalis connatis. Ovarium globosum stylo subaequilongo. Calyx fructifer 5-dentatus basem drupae laxe cingens, radio —3 mm. Drupa ovoideo-globosa, ruber, —7 mm longa.

Affinis *H. densifrons* Engler.

French Guiana: Martin s.n., Poiteau s.n. anno 1826, Le Prieur s.n., anno 1838 et 1850, Richard s.n., Wachenheim no. 376, (all in herb. Par.)

Surinam: Hulk no. 247, B.W. no. 6451 (U.).